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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,840	12/08/2005	Javier Del Prado Pavon	PHUS030168	9613
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EXAMINER				
LIU, BEN H				
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2616				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/559,840

**Applicant(s)**

DEL PRADO PAVON ET AL.

**Examiner**

BEN H. LIU

**Art Unit**

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. This is in response to an amendment/response filed on May 14, 2008.
2. Claims 1, 3, 5, 7, 11, 13 and 16 have been amended.
3. No claims have been cancelled.
4. Claim 20 have been added.
5. Claims 1-20 are currently pending.

***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 11-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed towards non-statutory matter. Claims 11-20 are drawn to a data structure per se that merely manipulates data or an abstract idea without a limitation to a practical application in the technological arts.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a)

shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-2, 7, 9-12, 16, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishimura (U.S. Patent Application Publication 2003/0210673).

**For claim 1**, Nishimura discloses a method of transmitting data frames over a data network, comprising transmitting a plural number of MAC (Media Access Control) data frames *(see paragraph 69, which recite an extended MAC frame containing multiple MAC frames that are combined)*, each MAC data frame including a header, a data field, and a frame check sequence (FCS) *(see figure 6, which recite multiple MAC frames each with a MAC header, data field, and FCS field)*, with only a single PLCP (Physical Layer Control Procedure) overhead *(see figure 6, which recite a single PLCP preamble and header for the combined plurality of MAC frames)*.

**For claim 2**, Nishimura discloses a method of transmitting data frames over a data network wherein said PLCP overhead comprises a PLCP preamble and a PLCP header *(see figure 6, which recite a single PLCP preamble and header preceding the combined plurality of MAC frames)*.

**For claim 7**, Nishimura discloses a method of transmitting data frames over a data network wherein the header, data field, and frame check sequence correspond to a MAC header portion, a MAC frame body portion and a CRC (Cyclic Redundancy Check) portion, respectively *(see paragraph 69, which recite a MAC frame includes a MAC header, a MAC frame body containing an encapsulated IP packet, and a FCS cyclic redundancy check)*.

**For claim 9,** Nishimura discloses a method of transmitting data frames over a data network wherein said data network is a wireless data network (*see paragraph 19, which recite an extended MPDU containing multiple MAC frames used in wireless radio transmission*).

**For claim 10,** Nishimura discloses a method of transmitting data frames over a data network wherein said wireless data network uses IEEE 802.11 protocol (*see paragraph 7*).

**For claim 11,** Nishimura discloses a frame structure of packet data for transmission over a data network, comprising: a plural number of MAC (Media Access Control) data frames (*see paragraph 69, which recite an extended MAC frame containing multiple MAC frames that are combined*); and a PLCP (Physical Layer Control Procedure) overhead including a PLCP preamble and a PLCP header (*see figure 6, which recite a single PLCP preamble and header preceding the combined plurality of MAC frames*), wherein each MAC data frame including a header, a data field, and a frame check sequence (FCS) (*see figure 6, which recite multiple MAC frames each with a MAC header, data field, and FCS field*), and only a single one of said PLCP overhead is provided to all said plurality of MAC data frames (*see figure 6, which recite a single PLCP preamble and header for the combined plurality of MAC frames*).

**For claim 12,** Nishimura discloses a frame structure of packet data for transmission over a data network wherein said single PLCP overhead is provided in front of a first one of said plurality of MAC data frames (*see figure 6, which recite a single PLCP preamble and header preceding the combined plurality of MAC frames*).

**For claim 16,** Nishimura discloses a frame structure of packet data for transmission over a data network wherein the header, a data field, and a frame check sequence (FCS) a MAC header portion, a MAC frame body portion and a CRC (Cyclic Redundancy Check) portion,

respectively (*see paragraph 69, which recite a MAC frame includes a MAC header, a MAC frame body containing an encapsulated IP packet, and a FCS cyclic redundancy check*).

**For claim 20**, Nishimura discloses a frame structure of packet data for transmission over a data network wherein the PLCP overhead includes a PLCP preamble (*see figure 6, which recite a single PLCP preamble and header preceding the combined plurality of MAC frames*).

10. Claims 3-6, 8, 13-15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura (U.S. Patent Application Publication 2003/0210673) in view of Ho et al. (U.S. Patent Application Publication 2003/0169769).

**For claims 3 and 13**, Nishimura discloses all the subject matter of the claimed invention with the exception wherein the method of transmitting data frames over a data network includes transmitting a concatenated MAC header indicating said plural number. Ho et al. from the same or similar fields of endeavor teach a method and apparatus for frame aggregation of MAC data (*see paragraph 15*) wherein the aggregated frame includes a frame sub-body count field 126 that indicates the number of frames that are aggregated (*see paragraph 41 and figure 6*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the frame sub-body count field as taught by Ho et al. with the method of transmitting combined data frames over a data network as taught by Nishimura. The frame sub-body count field as taught by Ho et al. can be implemented by configuring the apparatus of transmitting combined data frames over a data network as taught by Nishimura to include the count field. The motivation for using frame sub-body count field with the apparatus of transmitting

combined data frames over a data network is to improve the robustness of the transmission by providing information regarding the transmitted data.

**For claims 4 and 14**, Nishimura discloses all the subject matter of the claimed invention with the exception wherein the concatenated MAC header further indicates a length of said plurality of MAC data frames. Ho et al. from the same or similar fields of endeavor teach a method and apparatus for frame aggregation of MAC data (*see paragraph 15*) wherein the aggregated frame includes one or more sub-body length fields 130 that indicate the length of the plurality of MAC data frames (*see paragraph 41 and figure 6*). A single length field or the sum of all the length fields could indicate the length of the plurality of data frames. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the frame length field as taught by Ho et al. with the method of transmitting combined data frames over a data network as taught by Nishimura. The frame length field as taught by Ho et al. can be implemented by configuring the apparatus of transmitting combined data frames over a data network as taught by Nishimura to include the frame length field. The motivation for using frame length field with the apparatus of transmitting combined data frames over a data network is to improve the robustness of the transmission by providing information regarding the transmitted data.

**For claim 5**, Nishimura discloses a frame structure of packet data for transmission over a data network including inserting said PLCP preamble after transmission of some of said plurality of MAC data frames (*see figure 6, which recite inserting a PLCP preamble after transmitting a plurality of MAC data frames from a previous combined frame*).

**For claim 6**, Nishimura discloses a frame structure of packet data for transmission over a data network wherein said single PLCP overhead is provided in front of a first one of said plurality of MAC data frames (*see figure 6, which recite a single PLCP preamble and header preceding the combined plurality of MAC frames*).

**For claims 8 and 17**, Nishimura discloses all the subject matter of the claimed invention with the exception wherein said plurality of MAC data frames are addressed to a common destination, said concatenated MAC header further indicates said destination, and said MAC header portion in each data frame is a compressed MAC header that does not include a portion indicating said destination. Ho et al. from the same or similar fields of endeavor teach a method and apparatus for frame aggregation of MAC data (*see paragraph 15*). The resulting aggregated frame includes a single, concatenated MAC header containing a DTAID field associated with a common destination address for all the MAC sub-bodies of the aggregated frame (*see paragraph 59*). It is noted that while the destination address is consolidated, the individual sub-body headers are preserved to include the sub-body length field (*see figure 6*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the DTAID field as taught by Ho et al. with the method of transmitting combined data frames over a data network as taught by Nishimura. The DTAID field as taught by Ho et al. can be implemented by configuring the apparatus of transmitting combined data frames as taught by Nishimura to insert the DTAID field between the PLCP overhead and the plurality of MAC data frames. The motivation for using a single DTAID field with the apparatus of transmitting combined data frames over a data network is to improve the efficiency of the transmission by eliminating redundant address fields of a common destination.



**For claim 15**, Nishimura discloses all the subject matter of the claimed invention with the exception wherein said concatenated MAC header is located between said PLCP overhead and said first one of said plurality of MAC data frames. Ho et al. from the same or similar fields of endeavor teach a method and apparatus for frame aggregation of MAC data (*see paragraph 15*). The resulting aggregated frame includes a concatenated MAC header that contains a frame sub-body count field and length field (*see paragraph 41 and figure 6*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the frame count and length field as taught by Ho et al. with the method of transmitting combined data frames over a data network as taught by Nishimura. The frame length field as taught by Ho et al. can be implemented by configuring the apparatus of transmitting combined data frames as taught by Nishimura to insert the frame count and length field between the PLCP overhead and the plurality of MAC data frames. The motivation for using frame count and length fields with the apparatus of transmitting combined data frames over a data network is to improve the robustness of the transmission by providing additional information regarding the transmitted data.

**For claim 18**, Nishimura discloses a frame structure of packet data for transmission over a data network wherein said data network is a wireless data network (*see paragraph 19, which recite an extended MPDU containing multiple MAC frames used in wireless radio transmission*).

**For claim 19**, Nishimura discloses a frame structure of packet data for transmission over a data network wherein said wireless data network uses IEEE 802.11 protocol (*see paragraph 7*).

***Response to Arguments***

11. Applicant's arguments with respect to claim 1-19 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BEN H. LIU whose telephone number is (571)270-3118. The examiner can normally be reached on 9:00AM to 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/  
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2616

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